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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/772,404

**Applicant(s)**

SATO, SHOUGO

**Examiner**

Quana M. Grainger

**Art Unit**

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-18, 20-42 and 44-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 12-18, 23-25, 27-42, 44-46, 50 and 51 is/are rejected.
- 7) ☒ Claim(s) 9-11, 20-22, 26 and 47-49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 27-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 27-49 are objected to because the cartridge frame does not move relative to the photosensitive body as claimed. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 7, 12-14, 17, 23-25, 27-45, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (JP2001-255777A, cited by applicant) in view of Arimitsu et al. (2003/0142991A1).

Ishida teaches a processing device 21 includes one of a charging unit 31 that uniformly charges a surface of the photosensitive body 10 prior to the formation of the electrostatic latent image, a developing unit 21 that supplies a charged developing agent onto a surface of the photosensitive body 10 on which the electrostatic latent image is formed to develop the electrostatic latent image, and a cleaning unit 32 that removes developing agent remaining on the

surface of photosensitive body after a transfer of the developing agent is performed (abstract; figure 3 & 4). The processing device is a developing unit 21 that supplies a charged developing agent onto the surface of photosensitive body on which the electrostatic latent image is formed to develop the electrostatic latent image. The mainframe includes a guide portion that guides a movement of the process cartridge at the time of loading and unloading (figure 3 & 4, [0007-0008]). The predetermined positional relation is a positional relation immediately after the process cartridge has been taken out from the mainframe (figures 4 & 3). The photosensitive body includes a photosensitive drum 10; and the processing device 21 relatively moves around an axial line of the photosensitive drum 10. The photosensitive body includes a photosensitive drum 10; and the process cartridge is loaded and unloaded in a direction substantially orthogonal to an axial line of the photosensitive drum. Ishida teaches a process cartridge loadable in and unloadable from an image forming apparatus, comprising: a photosensitive body 10; and a processing device acting on the photosensitive body; wherein relative positions of the photosensitive body and the processing device are changeable when the process cartridge is loaded in and unloaded from the image forming apparatus; and at least one of the photosensitive body and the processing device have a first guided portion that fits with a second guide portion that is provided in the image forming apparatus. The processing device includes one of a charging unit that uniformly charges a surface of the photosensitive body prior to the formation of an electrostatic latent image thereon, a developing unit that supplies a charged developing agent onto the surface of the photosensitive body on which the electrostatic latent image is formed to develop the electrostatic latent image, and a cleaning unit that removes developing agent remaining on the surface of the photosensitive body after a transfer of the developing agent

is performed. The predetermined positional relation is a positional relation immediately after the process cartridge has been taken out from the image forming apparatus (figures 4 & 3; [0020-0029]). The photosensitive body includes a photosensitive drum; and the process cartridge is loaded and unloaded in a direction substantially orthogonal to an axial line of the photosensitive drum. Ishida teaches an image forming apparatus, comprising: a mainframe having a guide portion; a process cartridge that is loadable in and unloadable from the mainframe while being guided by the guide portion, the process cartridge accommodating a photosensitive body and a processing device that acts on the photosensitive body; wherein the guide portion guides one of the photosensitive body and the processing device to shift a position of the one of the photosensitive body and the processing device relative to the process cartridge when the process cartridge is loaded in and unloaded from the mainframe (figures 3 & 4). The image forming apparatus further comprising: an elastic body that is interposed between the photosensitive body and the processing device.

Ishida teaches an image forming apparatus, comprising: a mainframe; and a process cartridge loadable in and unloadable from the mainframe, the process cartridge including: a cartridge frame; a photosensitive body; and a developing roller, facing the photosensitive body, the cartridge frame defining a container, frame that contains a developer, the developer being supplied to the developing roller; and wherein the photosensitive body and the cartridge frame are connected such that positions of the photosensitive body and the cartridge frame are changeable relative to one another while the process cartridge is loaded in and unloaded from the mainframe (abstract; figures 3 & 4; [0007-0008; 0020-0029]).

Ishida does not teach that the process cartridge is horizontally in line with the exposure unit in the mainframe of the image forming apparatus.

Arimitsu et al. teaches a process cartridge which is horizontally in line with the exposure unit in the mainframe of the image forming apparatus. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Ishida with an image forming apparatus such as taught by Arimitsu et al. to provide an image forming device capable of holding a press-contact member and a photoreceptor drum in a state where the press-contact member is not strongly pressed to the photoreceptor drum when a photoreceptor unit is single (Ishida et al; abstract: lines 1-7).

5. Claims 4-5, 7-8, 12-14, 16-17, 23-25, 27-46, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takiguchi (JP9-152826A) in view of Arimitsu et al.

Takiguchi comprises a mainframe 21 having a guide portion 15, 17; a process cartridge 5 that is loadable in and unloadable from the mainframe while being guided by the guide portion, the process cartridge 5 accommodating a photosensitive body 7 and a processing device 3 that acts on the photosensitive body 7; wherein the guide portion 15, 17 guides one of the photosensitive body and the processing device to shift a position of the one of the photosensitive body and the processing device relative to the process cartridge when the process cartridge is loaded in and unloaded from the mainframe (abstract; figures 1-2 and 4; [0017-0026]). The processing device includes one of a charging unit that uniformly charges a surface of the photosensitive body prior to the formation of the electrostatic latent image, a developing unit that supplies a charged developing agent onto a surface of the photosensitive body on which the

electrostatic latent image is formed to develop the electrostatic latent image, and a cleaning unit that removes developing agent remaining on the surface of photosensitive body after a transfer of the developing agent is performed (figures 1-2, 4). The mainframe 21 includes a guide portion 15 that guides a movement of the process cartridge at the time of loading and unloading (figures 1-2, 4). The at least one of the photosensitive body and the processing device have a guided portion fittable with the guide portion; and the relative positions change due to at least one of the photosensitive body and the predetermined processing device moving along the guide portion. The predetermined positional relation is a positional relation immediately after the process cartridge has been taken out from the mainframe 21. The photosensitive body includes a photosensitive drum; and the processing device relatively moves around an axial line of the photosensitive drum (figure 3). The photosensitive body includes a photosensitive drum; and the process cartridge is loaded and unloaded in a direction substantially orthogonal to an axial line of the photosensitive drum (figures 1-2, 4).

Takiguchi teaches a process cartridge loadable in and unloadable from an image forming apparatus, comprising: a photosensitive body; and a processing device acting on the photosensitive relative positions of the photosensitive body and the processing device are changeable when the process cartridge is loaded in and unloaded from the image forming apparatus; and at least one of the photosensitive body and the processing device have a first guided portion that fits with a second guide portion that is provided in the image forming apparatus. The processing device includes one of a charging unit that uniformly charges a surface of the photosensitive body prior to the formation of an electrostatic latent image thereon, a developing unit 3 that supplies a charged developing agent onto the surface of the

photosensitive body on which the electrostatic latent image is formed to develop the electrostatic latent image, and a cleaning unit that removes developing agent remaining on the surface of the photosensitive body after a transfer of the developing agent is performed. The process cartridge further comprising: an elastic body disposed between the photosensitive body and the processing device so that, when the process cartridge is removed from the image forming apparatus, the relative positions can assume a predetermined positional relation where the process cartridge is easily loaded in the image forming apparatus [0017-0030]. The photosensitive body includes a photosensitive drum; and the processing device relatively moves around an axial line of the photosensitive (figure 3). The photosensitive body includes a photosensitive drum; and the process cartridge is loaded and unloaded in a direction substantially orthogonal to an axial line of the photosensitive drum.

Takiguchi teaches an image forming apparatus, comprising: a mainframe; and a process cartridge loadable in and unloadable from the mainframe, the process cartridge including: a cartridge frame; a photosensitive body; and a developing roller, facing the photosensitive body, the frame defining a container that contains a developer, the developer being supplied to the developing roller; and wherein the photosensitive body and the cartridge frame are connected such that positions of the photosensitive body and the cartridge frame are changeable relative to one another while the process cartridge is loaded in and unloaded from the mainframe [0017-0030]. Takiguchi teaches a process cartridge, comprising: a cartridge frame; a photosensitive body; a developing roller, facing the photosensitive body; a container, provided inside the cartridge frame that contains a developer, the developer being supplied to the developing roller; and a first transformation element 9 that is transformable between in a first original shape and in



a first transformed shape, the first transformation element connecting the photosensitive body and the cartridge frame (figure 1-2, 4; [0017-0030]).

Takiguchi teaches a process cartridge, comprising: a cartridge frame; a photosensitive body; a developing roller, facing the photosensitive body; and an elastic element that connects the photosensitive body and the cartridge frame such that the developing roller is movable below an imaginary horizontal plane defined by a lowest bottom surface of the cartridge frame during installation of the process cartridge into an image forming apparatus since position of the developing device may be rotated in directs that include it being lower than the cartridge frame during the installation process.

Takiguchi does not teach that the process cartridge is horizontally in line with the exposure unit in the mainframe of the image forming apparatus.

Arimitsu et al. teaches a process cartridge which is horizontally in line with the exposure unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Takiguchi with an image forming apparatus such as taught by Arimitsu et al. to provide a printer capable of forming an image of high quality (Takiguchi; abstract: lines 1-3).

6. Claims 2-3, 6, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida or Takiguchi in view of Arimitsu et al. Neither Ishida nor Takiguchi teaches a photosensitive body defines a plurality of photosensitive drums corresponding to a plurality of colors; the processing device faces a surface of the photosensitive body and acts on the photosensitive body without contacting; and the process cartridge includes a grip portion

disposed on the developing unit. The examiner takes official notice that it is known in the art to supply a grip handle for an image forming cartridge, to use a process cartridge in an image forming apparatus that uses plural colors, and form a process cartridge with a non-contacting type development device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Ishida or Takiguchi with an image forming apparatus that has the previously mentioned conventional type image forming device to provide a printer capable of forming an image of high quality (Takiguchi; abstract: lines 1-3).

***Allowable Subject Matter***

7. Claims 9-11, 20-22, 26, and 47-49 contain allowable subject matter.

***Response to Arguments***

8. Applicant's arguments filed 2-11-2008 have been fully considered but they are not persuasive.

The office action has been updated per applicant's request to better articulate the reasons for obviousness for each rejection.

Applicant argues that with respect to claims 27-45, the Office Action tersely alleges that "the cartridge frame does not move relative to the photosensitive body as claimed," without any explanation of why the cartridge frame allegedly does not move relative to the photosensitive body as claimed or any response to Applicant's previous arguments that the cartridge frame in fact moves relative to the photosensitive body as claimed.

However, a cartridge frame is the structure that surrounds the elements constituting the process cartridge. It is normally not pliable but made of a strong protective substrate. However,

this cartridge frame is shown in figures 1-4 to cover the developer and a portion of the developing roll. The figure included in the arguments clearly shows a process cartridge that has an unprotected and uncovered drum; however, the claims recite that the process cartridge accommodates a drum (photosensitive body). If the drum is not part of the process cartridge, then this cartridge is just a developing cartridge. Nevertheless, if applicant is claiming a special cartridge frame that moves, it needs to be described in the specification and depicted in the drawings. The drawings have not been objected to at this point because it is believed that the claim is in error. Please explain.

Applicant argues that the Office Action alleges that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Ishida with an image forming apparatus such as taught by [Arimitsu] to provide an image forming device capable of holding a press-contact member and a photoreceptor drum in a state where the capable of holding a press-contact member and a photoreceptor drum in a state where the press-contact member is not strongly pressed to the photoreceptor drum when the photoreceptor unit is single" (Office Action, p. 5).

However, the teaching is taken directing from the reference Ishida et al. This reference was cited by applicant and applicant should be aware of what it teaches.

Applicant also state that it is not entirely clear whether the Office Action is relying on Ishida as modified by Arimitsu or relying on Arimitsu as modified by Ishida. It is clear from the office action that the teaching of Ishida et al. in being applied to Artimitsu et al. Of course, the rejection is based on the combination of the two teachings of the references.

Applicant argues that neither Ishida nor Arimitsu disclose teach or suggest that "the photosensitive body of the process cartridge is not horizontally in line with an exposure unit of the mainframe when the process cartridge is being unloaded from the main frame," as recited in claim 25.

However, when the cartridge is being unloaded, the horizontal alignment will be broken. Further, the process of loading and unloading a cartridge includes more than just the portion of the process when the cartridge is in the claimed guide portion.

Applicant also argues that

Second, if the Office Action is relying on Ishida as modified by Arimitsu, the Office Action has failed to provide a plausible rational for combining the references. The exposure unit is not shown or described in Ishida. Furthermore, the device of Ishida cannot have, nor be modified to have an exposure unit located horizontally in line with the photoconductor drum 10, as allegedly taught by Arimitsu. That is, as shown in FIG. 2, if an exposure unit was located horizontally in line with the photoconductor drum 10 in Ishida, any laser emitted thereby would be blocked by the case of the developer 20 or the case of the cleaning/electrification unit 30. Thus, such a modification would, improperly render the device unsatisfactory for its intended purpose.

In response to applicant's argument that the references can be modified as discussed in the office action, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the

art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The teachings alone are being combined, not the structure.

Applicant argues that with respect to independent claim 27, Ishida at least fails to disclose "a mainframe including a first guide portion and a second guide portion, each of which is formed horizontally across an inside of the mainframe, and each of which curve downward at their ends" wherein "the cartridge frame is guided by and stops at the end of the first guide portion and the developing roller is guided by and stops at the end of second guide portion .when the process cartridge is loaded in the mainframe." It appears that the Office Action is alleging that notches 63 and 61 are equivalent to the claimed first and second guide portions. Claim 27 is unclear because of the limitations recite a process cartridge and a drum, but this is not shown, please address that issues so that this claim may be allowed.

With respect to claim 46, applicant argues that Takiguchi at least fails to disclose "the first elastic element connecting the photosensitive body and the cartridge frame." Takiguchi discloses an elastic element 9, which connects the developing means 2 (having the developing roller 3) and the cartridge body 5 (paragraphs [0017] and [0021], and FIG. 1). Thus, in Takiguchi, the elastic element 9 connects the developing means 2 and roller 3 to the cartridge body 5 - it does not connect the photoconductor drum 7 to the cartridge body 5. Thus, Takiguchi fails to disclose the first elastic element connecting the photosensitive body and the cartridge frame, as recited in claim 46.

However, the developing means is roll 3 and 2 is a cartridge frame. The spring 9 connects the cartridge frame 2 to the drum 7 and its frame.

The claims remain rejected as discussed above. However, some of applicant arguments are persuasive and will lead to the allowance of certain claims after the claimed process cartridge contents and structure is resolved.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana M. Grainger whose telephone number is 571-272-2135. The examiner can normally be reached on 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quana M Grainger/  
Primary Examiner, Art Unit 2852

QG